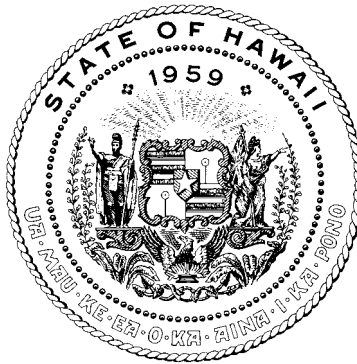


**ANNUAL REPORT TO THE TWENTY-THIRD LEGISLATURE
STATE OF HAWAII
REGULAR SESSION OF 2005**

**RELATING TO THE NARS
AND
NATURAL AREA PARTNERSHIP PROGRAM
AND
THE FINANCIAL CONDITION OF THE
NATURAL AREA RESERVE FUND**



Prepared by

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE**

In response to Section 195-6.6, Hawaii Revised Statutes

**Honolulu, Hawaii
December 2004**

ANNUAL REPORT TO THE TWENTY-THIRD LEGISLATURE

**REGULAR SESSION OF 2005
RELATING TO THE NATURAL AREA RESERVES SYSTEM,
NATURAL AREA PARTNERSHIP PROGRAM
AND
THE FINANCIAL CONDITION
OF THE NATURAL AREA RESERVE FUND**

PURPOSE

Section 195-6.6, Hawaii Revised Statutes (HRS), requires an annual comprehensive status report on the Natural Area Reserve System (NARS), and the Natural Area Partnership Program (NAPP). This report will include, but not be limited to:

1. Description of activities and accomplishments;
2. Compliance with Chapter 42F, HRS, requirements;
3. Analysis of the problems and issues encountered in meeting or failing to meet the objectives set forth in the management plans;
4. Status of public hunting opportunities;
5. Financial condition of the Natural Area Reserve Fund (the Fund), including receipts and expenditures for the Fund for the previous fiscal year (FY04); and
6. Plans and management objectives for the next fiscal year (FY05).

NATURAL AREA RESERVES SYSTEM (NARS)

1. DESCRIPTION OF ACTIVITIES AND ACCOMPLISHMENTS

The statewide NARS currently consists of 19 reserves with a total of approximately 109,165 acres on five islands. The NARS was set up with the mandate of protecting the best remaining examples of native ecosystems and geological sites on state-managed lands, which would act as a yardstick by which to measure changes occurring across the rest of the State. Annual Program activities are based primarily on the long-term integrated management plans developed for each reserve. While NARS is based on the concept of protecting native ecosystems, as opposed to single species, many rare and endangered plants and animals benefit from the protection efforts through NARS. Major management activities implemented according to the management plans include ungulate control, non-native plant control, monitoring, rare species protection strategies, and public education. While the majority of the reserves have management plans, the plans are being reviewed and updated as new management actions are identified. To this end, the Department of Land and Natural Resources/Division of Forestry and Wildlife (DLNR/DOFAW) participates in a number of working groups to facilitate increased input by all concerned parties before existing plans are revised and new plans are written. Large-scale management actions, such as fences, may go through the Environmental Assessment process.

Management policies approved by the Natural Area Reserves System Commission and the Board of Land and Natural Resources (BLNR) continue to be the general guide for rule-

making and development of management plans for NARS.

Non-native Animal Control

Ground and aerial surveys of feral ungulates (pigs, goats and deer) were conducted in various reserves. As outlined in the management plans, the type of control measures implemented depended on the reserve location, terrain features, and relative abundance of non-native animals. Public hunting, staff hunting, snaring (only in remote/fenced areas) and strategic fencing were used to control non-native animals in the reserves. Organized control methods (primarily public hunting) removed 136 pigs, 13 black tailed deer, 0 axis deer, 277 goats and 25 mouflon sheep (via a drive in Manuka). In addition, small mammal control efforts captured 54 mongoose, 15 feral cats, 2 dogs and 45 coqui frogs (Manuka Natural Area Reserve).

As part of the continuing feral ungulate control program, fenced rare plant exclosures were maintained on all islands in and adjacent to the reserves. Over 141 miles of existing ungulate control fence were maintained. Seven miles of fence were constructed on the Big Island: 2 miles in Manuka, 4 miles in Kipahoe, and 1 mile in Puu O Umi to replace a fence destroyed by vandals. In Maui, 1.5 miles of fence was constructed in Kahakuloa, West Maui to separate the GMA from the NAR, as a cooperative project with the West Maui Mountains Watershed Partnership fence crew.

Volunteer hunts with the Pig Hunters of Hawaii were conducted in the 2,300-acre Wright Road unit of the Puu Makaala NAR. Between November 2003 and May 2004, the group caught 35 pigs. With diminishing catches from hunters, staff control was initiated in May 2004. At Manuka NAR, in cooperation with MacFarms Hawaii, a pig trapping program has been initiated. Feral pigs are a detriment to both the natural resources of Manuka NAR and the macadamia nut crops of MacFarms Hawaii. Employees of MacFarms help to bait and set traps along the NAR boundary. In fiscal year 2004, approximately 80 pigs were trapped.

The Molokai Hunting Working Group continues to meet and participate as a community in long-term management of NARS, the Nature Conservancy of Hawaii Preserves (TNCH), and portions of Kalaupapa National Historical Park. Public and organized hunting have kept feral ungulate activity levels from escalating too high. However, there is room for increased control efforts, particularly in the remote pali areas and on the leeward side, to reduce damage. The Working Group continues to provide an opportunity for land managers and local community members to interact and gain an appreciation for each other's perspectives, while trying to protect and enhance native ecosystems.

The Maui Axis Deer Group, composed of public and private sector members, were relatively inactive last year. They have previously compiled findings and made recommendations for dealing with various aspects of the issue, including issues of impact to human health, public safety, and the maintenance of healthy native ecosystems. This year, main actions have been securing funds to develop an Axis deer management plan with the Group presently soliciting a writer.

Efforts continued this year to increase the safety and efficiency of aerial control of feral ungulates by refining the Department-wide aerial ungulate control policy and standard operating procedures; training several staff to be certified aerial gunners with the aim of having experienced certified

personnel on each island; and working on a memorandum of agreements to enable DOFAW to conduct aerial control on private lands within the Molokai and Maui watershed partnership areas initially and eventually statewide.

Non-native Plant Control

Non-native plant control continued throughout the System as ongoing management actions. The cleared areas are monitored to prevent the re-establishment of undesirable non-native plants. Weed control methods include removal by hand and the use of approved herbicides. Highlights were the control in the 3-acre Kanaio enclosure and aerial spraying fountain grass in Manuka. Volunteers provided significant manual labor needed to remove the non-native plants. In Reserves with housing available, such as Manuka, weekend service trips were conducted by groups such as the Sierra Club and the Youth Conservation Corps. Bio-control projects continue to be conducted under permit for *Clidemia* in the Hono O Na Pali Reserve on Kauai and for blackberry in the Kaala Reserve on Oahu. Weed monitoring transects continued to be monitored throughout the State. The main focus of weed control continues to be restriction of ungulate disturbance and transmittal by exclusion of ungulates in priority areas via fences.

Support of Invasive Species Committees

Staff continued supporting the invasive species committees on all islands in their work in controlling incipient species. For example on Oahu, the NAR Manager provided assistance to the Oahu Invasive Species Committee (OISC), a team dedicated to the survey and control of target invasive weed species. The Manager provided supervision of the OISC staff; and with money allocated by the State Legislature for invasive species control, purchased safety and communication equipment, vehicles, fuel, and provided office and storage space. Staff teamed with the OISC staff on such projects as control of Coqui frogs in Wahiawa. Similar support actions are performed routinely by Staff on the other Branches with the knowledge it is best to contain the incipient species before escape into the natural areas and watersheds.

Rare Species Protection and Restoration

The Rare Plant Program continued implementation of a wide range of management activities in FY 2004 and initiated three new plant projects due to cash match from NARF. The focus of the Program continues to be habitat protection & enhancement, benefiting plant species as well as supporting other native Hawaiian fauna. The mid-elevation Rare Plant Nurseries on Hawaii, Maui, Oahu, and Kauai continue to be the heart of restoration efforts. These facilities were enhanced with additional staffing and improved facilities in 2004. Over 9,000 individual plants originating from these nurseries were out planted on state lands in the past year, mainly on Kauai and the island of Hawaii.

On a statewide basis, Lyon Arboretum Tissue Culture Facility addresses genetic preservation of Hawaii's most rare plants. Currently, 216 native plants are maintained at Lyon Arboretum, 143 species Endangered. The majority of the 7,656 plants are sustained *in vitro* as germplasm storage

collections. The Lyon Arboretum Seed Storage Facility has expanded its capacity to hold an estimated 3,000+ seed lots.

On Oahu, outplanting was increased in the Pahole NAR with improvements made to the Pahole Rare Plant Facility (PRPF). The horticulturist initiated work on a Master Plan for the facility to organize and accommodate their cooperators. Design work was completed for an additional 2,500 square feet of nursery space, a new access road, erosion repairs, plus a drainage plan for erosion prevention. Forty-five plant species (35 listed as Endangered) are in propagation/maintained in the PRPF for outplanting, genetic storage, or production of seeds/cuttings. In the Koolau Mountains, the Oahu Genetic Safety Net (GSN) botanist focused on management for rare species by enhancing/stabilizing plants having less than 50 individuals left. The Dillingham Nursery was established to implement the *Abutilon menziesii* HCP and for rare plant species in coastal/strand communities.

On Kauai, the Kokee Rare Plant Facility (KRPF) focuses on propagation of 26 endangered species for outplanting and other rare Kauai plants. For FY04, almost 1,500 plants were established on Kauai. A Candidate Conservation Agreement (CCA) project is fencing portions of Kuia Natural Area Reserve. Staff maintained 15 fenced enclosures protecting rare plant species. A 3-year grant for management of the Limahuli Watershed has begun via a CCA with National Tropical Botanical Garden. Baseline surveys & collections of rare species in this watershed are occurring with outplanting for next two years.

On Hawaii, the Volcano Rare Plant Facility (VRPF) continues as a multi-agency collaboration with DOFAW as the lead agency. A total of 7,517 plants were produced by VRPF & outplanted on the Big Island. Within the Manuka NAR, perimeter fencing of portions of the Reserve and adjacent lands has been installed and animal control commencing.

Individuals of 265 rare species were outplanted and a total of 1,233 propagules collected, 4,000+ acres weeded, 96 miles of fence maintained and 1,336 volunteer hours logged in Manuka NAR. In the Kipahoe NAR, an EA is now complete and a portion of the perimeter fencing finished, strategically placed to prevent the ingress of domestic livestock from neighboring landowners. In an effort to facilitate fence construction, a management cabin was been constructed to house fencing crew at Kipahoe. Individuals of 157 rare plants were outplanted at Kipahoe, 13 miles of access road maintained, and almost 5 miles of fences constructed. The Puu Huluhulu fence on the Saddle Road was replaced. Surveys for rare plant species in the S. Kona Forest Reserve are ongoing, 68 individual plants of three sp. discovered. One new project, Puu Makaala NAR, maintained five fenced management units, four ungulate free. Management in these areas is ongoing. Outplanting numbers were 141, including 1 extinct species, *Clermontia peleana*. The 2nd new project builds upon conservation efforts in Puuwaawaa, in Waihou a 200-acre fenced enclosure was completed. Outplantings include 443 plants of 7 Endangered species plus 159 common species.

Presently the Malama Ki and Mauna Loa Mosaic areas are being surveyed for rare plants as an indication for inclusion within NARS. On Maui, plans for the Olinda Rare Plant Facility (ORPF) continued with the purchase of materials for the nursery and a continuing contract for oversight by a part-time horticulturist. The site has been cleared but office and greenhouse/lath-house must be

completed. For the Kanaio NAR fencing project, the EA was completed. Problems initiating procurement for construction of the fences appear to have been resolved, and contracts for construction should be approved quickly. Nearly nine hundred individuals of rare plant species were outplanted within a protected area of the Kanaio with follow-up invasive plant management and rodenticide control.

Staff continued assisting the Maui Forest Bird Recovery Project in Hanawi NAR. This Project is dedicated to maintaining suitable habitat for East Maui's native forest birds. In particular, the Project maintains the home range of the pouli, the most endangered wild bird in the World with only 3 individuals remaining. Specific accomplishments this year included: the capture, translocation and maintaining in captivity of one of the pouli. Efforts will continue in 2005 to maintain the habitat, capture the 2 remaining pouli and carrying out recommended avian research and management. For additional information on this project see www.mauiforestbird.org. Bird surveys were conducted in Puu Alii NAR in Molokai and West Maui NAR as part of the Forest Bird survey. Kuia and Hono O Na Pali will be surveyed in 2005.

Regarding invertebrate management, Oahu staff assisted in the maintenance of 2 predator-free snail sanctuaries to protect the endangered tree snail *Achatinella mustelina* in Pahole NAR and conducted extensive surveys for remaining snails in both the Waianae and the Koolau Mountains Ranges. Extensive arthropods surveys were conducted in both the Koolau Mountains and Big Island, within designated and proposed NARs.

These were conducted by Bishop Museum under a DOFAW contract and funded by a Federal CCA Grant. In addition our staff invertebrate experts routinely assisted researchers and the general public with educational information, technical and field assistance.

Research

Staff recommended approval by the BLNR of 52 Special Use Permits for research and education in the NARS. Staff continues to assist visiting researchers in the field and with logistics, as time allows. Staff review and comment on all research proposals and meet with researchers before they conduct any field work for safety reasons, as well as to insure that the proposed research will enhance the knowledge base of these areas and contribute to the long-term health of the reserves. To simplify the permitting process, staff now use standardized guidelines and application forms. This should help avoid unnecessary duplication, direct applicants to the appropriate staff and facilitate timely review and processing.

Staff continue statewide research through management to increase the efficiency of predator control, application of bio-control agents, and herbicide trials for weed control.

Monitoring

Monitoring is necessary to measure the condition and status of natural resources as they change over time due to environmental factors, human activities and specific management programs. Different monitoring techniques are used, depending on the type of resource monitored and the level of

information needed. Monitoring plots continue to be maintained in a majority of the reserves. Long-term monitoring and maintenance of over 35 miles of weed and ungulate transects was continued in 4 reserves on Hawaii, and 20 miles of ground-based ungulate and weed transect activity were monitored in the Oahu Reserves. Staff perform resource survey and monitoring as part of their daily work activities.

The data is compiled and maintained at both DOFAW Branch offices and the University of Hawaii Natural Heritage Program database. The Heritage database continues to be refined to serve the practical needs of Staff. Data gathered in previous years is being entered into the database and used to direct management and generate reports. Heritage is working with scientists at USGS-BRD to evaluate data for long-term trends. More efficient means of gathering and recording data are being explored. DOFAW's in-house monitoring, Geographic Information System (GIS) and mapping capabilities were enhanced this past year with staff training and the purchase of appropriate software and equipment.

Public Outreach, Youth Activities, and Community Involvement

In FY04, "Wao Akua: Sacred Source of Life," was published by DLNR-Forestry & Wildlife. It highlights the perspectives of cultural practitioners, farmers, scientists, poets, playwrights, artists, historians, and kupuna. The combination of their voices articulates a story of the natural treasures that make Hawaiian forests some of the most unique and threatened ecosystems in the world. The book became an instant success and received several awards including Pele and Ka Palapala Pookele awards for excellence and before the end of FY04 planning was underway to re-print. All costs to publish the book were recovered and the small profit was used to re-print.

Between late 2003 & June 2004, DOFAW sponsored the installation of an exhibit entitled "Step into the Hawaiian Forest" in downtown office tower elevators. The exhibit consisted of 4 photomurals depicting different native forests of Hawaii and an accompanying soundtrack of native birds. It gave city people the experience of stepping into a Hawaiian forest for a brief moment of their day. One of the murals featuring Mt. Kaala Natural Area Reserve is currently in the possession of DOFAW and installed in the Kalanimoku building.

As part of the overall public awareness campaign, Year of the Hawaiian Forest, four public service announcements were shown in October/November, 2003 and March/ April, 2004. These PSAs had these 4 basic messages: 1) The Hawaiian forest is our source of pure water, clean air, and life found nowhere else on earth & it is disappearing fast. 2) Invasive species endanger our forests - please help by not introducing plants and animals into Hawaii that can become pests. 3) Water - the Hawaiian forest is the source of all our fresh water.

4) Shade - the forest gives us shade that saves energy. In addition, a brochure and resource directory titled "Be Forest Friendly" was printed and given out through our partners directly to schools, at public events, and at buildings hosting the elevator exhibit. 30,000 brochures were given out by the end of the campaign.

The Youth Conservation Corps (YCC) expanded again this year to include 6 teams on five islands

and for the first time adding the island of Maui. A total of 72 youth participated. The Program lasted 7 weeks and included a team trip to Kahoolawe for most teams. The members contributed a total of 16,616 volunteer hours working on projects such as endangered species restoration, trail maintenance, out-planting, species monitoring, and invasive plant removal. For more information on the YCC, see www.hawaii.ycc.com. An informational video was also produced during this year's YCC program and will be used for recruiting and presentations during upcoming years.

In addition to the summer YCC program, we added a year-round Americorps-sponsored component. This allowed young adults to gain entry-level experience working alongside managers in the field. There were a total of nine full-time and four part-time members, committing to work for a year. The program was intended to serve as an extension of the summer YCC program and provide more in-depth training for youth interested pursuing a career working in the natural resources conservation field.

Many volunteer service trips were made to the reserves statewide. On Oahu 17 different community, educational, or civic groups provided 1,961 hours of volunteer labor on 57 different trips. On Hawaii, 120 volunteers were given an opportunity to experience these unique places directly while providing the Program with 960 hours of work, mostly weeding invasive species.

Websites were maintained to provide: a virtual tour of each reserve and additional information to the public on the NARS mission, policies and procedures, contact information and permitting guidelines (see <http://www.dofaw.net/nars/>); the public and potential partners with information about the Watershed Partnership Program and how to become involved (see www.state.hi.us/dlnr/dofaw/wpp/index.html); and information for teachers and students through <http://www.state.hi.us/dlnr/dofaw/kids/index.html>, and <http://www.state.hi.us/dlnr/dofaw/kids/teach/index.html>

Infrastructure

Staff maintained 582 signs throughout NARS. Information and boundary signs were installed or replaced in several reserves. Approximately 125 miles of existing trails were maintained in various reserves, primarily for management purposes. Alien plant control was the major activity along the trails to limit the spread of weeds to new areas. 3 miles of boardwalk in the Alakai Wilderness Preserve on Kauai and the Kaala Reserve boardwalk on Oahu were maintained.

Over 141 miles of existing ungulate control fence were maintained with regularly scheduled inspections, and immediate repairs were made to prevent ungulate ingress and subsequent damage to the resource. Existing helipads were maintained to facilitate management and monitoring and to provide access for emergencies. 16 management shelters were maintained for long-term management actions. Over 70 miles of roads, mostly on Hawaii and Oahu, were maintained to provide hunter and management access. Road barriers continue to be maintained in the Manuka Reserve on Hawaii to prevent dumping and illegal logging activities. Vehicle barriers continue to be

maintained on both sides of Kaena Point to protect the fragile dune ecosystem and cultural sites by prohibiting off-road vehicle use. Similarly, vehicle barriers continue to be maintained at Ahihi-Kinau on Maui to protect geological and cultural features from off-road damage.

Recreation

Although the primary mission of NARS is resource protection, the reserves provide recreational opportunities for residents and tourists in pursuits such as hiking, photography, kayaking, diving, nature viewing and hunting. Some of the most popular areas for these activities are within the Reserves. Providing and maintaining roads, trails, boardwalks, shelters, interpretative signage and brochures enhance public awareness, access and enjoyment of NARS.

Along those lines, one of the main issues this last year was over use of the NARS, particularly Ahihi-Kinau NAR by commercial tour operators. The NARS Commission established a subcommittee, which reviewed the issue at 2 meetings and submitted their findings and recommendations to the Commission. To address the rampant commercial use at Ahihi Kinau, the Commission conducted a morning site visit to Ahihi-Kinau NAR, Maui on November 17, 2003, to learn first hand about the various interactions between the public, extensive commercial kayak operations and the impacts of such cumulative activities. At the afternoon meeting in Kahului, there was extensive testimony from members of the public as well as commercial kayak operators, ranging from outright ban of all commercial activity to limited use. At its April 5, 2004 meeting the Commission recommended the Department take appropriate action including enforcement of the prohibition of commercial use without a permit. Long-term monitoring of the area has been initiated and will continue, so that information may help guide staff, the NARS Commission and Department in making management decision including allowed limits of recreational use. The Board approved priority in controlling use is: 1) protection of the resources; 2) public use; and where appropriate, permitted, and doing no further harm to the previous two, 3) commercial use.

The Department has been proactive in addressing the problems by: effectively enforcing the rules for the area, securing management funding through the Hawaii Tourist Authority to implement needed actions such as the presence of rangers, archaeology surveys, establishment of an educational program and eventually buoys demarking the boundaries of the reserve. An Advisory Group convened by the Department to advise on a number of issues in the Ahihi-Kinau/Keoneoio area, continues to play an active role in the Maui Community and serves as an example of how working together across interests and jurisdictions may accomplish more in the long run.

Another example of action Staff undertook to allow public use while protecting the resources was installing a new trail delineation system within the Kaena Point NAR to keep visitors from leaving the trail and entering nesting areas for the Laysan Albatross and the Wedge-tailed shearwaters. A total of 500 anchor eye-rods and 2,500 linear feet of stainless steel cable were installed to keep visitors on the trail. Staff will be adding signs to inform visitors why it is important to stay on the trail and to describe the resource being protected.

Cultural Resource

Staff recognizes that many important cultural sites are located in the Reserves, such as the Adze Quarry in Mauna Kea Ice Age NAR. In order to better perform our stewardship duties of protecting these sites, Staff are preparing via contract cultural assessments of Mauna Kea Ice Age, Puu O Umi, Puu Makaala, and Manuka NARs and a cultural survey for Ahihi Kinau. This work will be valuable in the long-term management of the areas as it relates to Hawaiian culture and the strong link between natural and cultural resources. It will also assist in providing information on potential cultural impacts of conservation actions for use in the environmental review process. It is our long-term goal to include a cultural component in all management plans as they are updated and revised.

2. COMPLIANCE WITH CHAPTER 42F, HRS, REQUIREMENTS

All management activities were in accordance with the provisions in Chapter 42F, HRS.

3. ANALYSIS OF THE PROBLEMS AND ISSUES ENCOUNTERED

Protecting natural areas and ensuring the future of rare native ecosystems and species requires sustained management actions as described above. Actions such as weed and feral animal control and fire prevention must be conducted over the landscape as feral goats, pigs, deer, and sheep, invasive weeds, and fires do not recognize ownership boundaries. The recent emergence of watershed partnerships on every island across the State have contributed greatly to the State, Federal and private partners' potential ability to appropriately manage these large forested areas. However, coordinating and assisting the conservation efforts of these partners presents challenges and adds additional responsibilities on the already understaffed NARS crews.

Still, with short-term Federal and State funding, the NARS program has been able to partner with the Pacific Cooperative Studies Unit of the University of Hawaii to supplement important NARS management work and to assist in the coordination of watershed management actions, including invasive species control, fence construction, field surveys, and rare plant collection, propagation, and outplanting. This partnership with the University is critical, providing learning opportunities to young professionals in the biological sciences, and giving the State much-needed assistance with on-the-ground conservation. In addition, partnerships with other landowners and volunteers provide another method by which the NARS Program is working to meet conservation needs.

Controlling the threats of invasive weeds and feral animals remains a challenge. Feral animals damage native vegetation, contributing to erosion and damaging watershed capacity. At the landscape level, control of feral animals is possible using a combination of public hunting, exclusion by fences, staff control and aerial shooting. Building and maintaining fences, although effective, is very expensive. For remote areas and areas with steep terrain, aerial shooting is often the only effective method of controlling feral animal numbers. However, implementing aerial control missions remains a challenge due to safety concerns, cost, access, and liability issues. Revisions to the Division's aerial control operational plans, training, and right-of-entry agreements should help staff in conducting aerial shooting in a safe and effective manner.

The recent expansion of Invasive Species Committees should assist in the long term by preventing new introduction of invasive species through various prevention, control and research programs. The actions by the NARS and watershed crews complement the efforts of the Invasive Species Committees, by focusing on control of established species in the NARS and watershed areas, while the Invasive Species Committees focus more on preventing the introduction of new species and controlling incipient species.

4. STATUS OF PUBLIC HUNTING OPPORTUNITIES

Under the NARS Management Policies, strategies to reduce populations of non-native animals to the lowest possible level are employed. Public hunting continues to be the first control option of choice within NARS, although hunting is not managed on a sustained-yield basis. Game control methods (including fencing, trapping, snaring, and aerial shooting) are used as needed in specified areas if public hunting does not afford adequate control to reduce population/activity to the desired level. Increased public hunting opportunities occurred statewide as a result of construction and maintenance of improved access roads and trails.

5. FINANCIAL REPORT

NARS, on lands under State jurisdiction, is supported through the General Fund, Appropriation 047 (see Table A). In FY'04 expenditure were \$746,174 in Personnel costs and \$420,026 in Operational costs totaling \$1,166,200. This funding was supplemented by Federal endangered species and State watershed grants on a project by project basis.

In the current year, the general fund allocation is down to \$1,094,015 as 5 vacant permanent positions were eliminated by the Legislature.

6. PLANS AND MANAGEMENT OBJECTIVES FOR THE NEXT FISCAL YEAR

Where appropriate, reserve management activities will be guided by management plans. Activities in several reserves will incorporate recommendations from working groups. Plan implementation will focus on preventing, eliminating or controlling the spread of non-native plants and animals that have a detrimental effect on native ecosystems. Other management considerations will include local

community concerns, monitoring, research, public education, volunteer support and improving access. Youth Programs that provide hands-on experiences will continue to be a high priority. For all DOFAW Branches, partnerships will continue to play an important role in the management of the reserves, with resources shared to manage across property boundaries.

Plans and management objectives for the next fiscal year include completion of planned fencing projects; continued collaboration with Watershed Partnerships to cooperatively manage areas on a landscape level; implement aerial control of feral animals as needed; and secure additional permanent dedicated staffing. In addition to regular management activities, several specific projects will be initiated this year, in part due to DOFAW's success in obtaining several federal grants and

the Legislature providing State cost-share from the Fund:

Hawaii: In the next Fiscal year, the NARS Program on the Island of Hawaii hopes to complete construction of 3 management units in the Kipahoe NAR. These units will contribute to protecting the top 1,500 acres of the NAR. Planning for management in the Manuka NAR will be a goal of the year to include an updated management plan and environmental assessment. Key areas for management in Manuka include fountain grass control, new techniques for coqui frog control and removal of mouflon sheep from the upper portion of the NAR. Continued work with the Olaa Kilauea Partnership will advance management in the Puu Makaala NAR including completion of animal removal in the Wright Road Unit, invasive species control, and rare plant work. Big Island NARS are presently seeking funds for a new educational outreach program at Puu Makaala that include 6th grade children from the public school system. The Kohala Watershed Partnership is advancing in the completion of a management plan for the partnership area. It is hoped the environmental compliance, which includes Puu O Umi, will be completed for this project in the next fiscal year.

Maui: The NARS program on Maui will continue to implement the cooperative management fence project for the Puu Alii NAR, Kahakuloa NAR, and Kanaio NAR; work on the development of an Axis Deer Management Plan; develop an Ahihi-Kinau NAR Resource Management Plan with assistance from Advisory Group and DLNR Administration; implement the HTA funded projects at Ahihi-Kinau NAR; implement new Aerial Shooting Policies; and obtain additional office space for new employees. Partnerships will continue to play an important role in the management of all reserves.

Oahu: The NARS program on Oahu will continue to implement fencing projects in the Pahole Reserve; conduct resource surveys and prepare BLNR submittal for including the upper portion of Poamoho section of Ewa Forest Reserve into NARS; work with United States Army in the Makua mitigation process; and continue implementation of the successful rare plant Program.

Kauai: The NARS program on Kauai will implement a fencing project in Kuia Reserve and continue implementation of the successful rare plant Program.

For the fiscal year 2005, the Natural Area Reserve staff and DOFAW Forestry staff will continue to support plant restoration projects. To reduce paperwork and promote efficiency, the Plant Program is moving to consolidate island projects under one umbrella project per island

The YCC Americorps Program will continue this year and will provide 12 Americorps interns the opportunity to work full-time with staff on 5 islands. The YCC Program is planning to continue with similar numbers (80) of students enrolled on 5 islands. With increased activity and accomplishments, there is a need for additional funding and staff as outline in the 2001 Legislative Report regarding funding and staffing needs for NARS.

NATURAL AREA PARTNERSHIP PROGRAM (NAPP)

PURPOSE

This innovative Program, established by the Legislature in 1991 through Act 326, provides State-matching funds on a 2:1 basis with private funds for the management of natural resources on private lands permanently dedicated to conservation. This Program complements the existing NARS by providing long-term protection and management of unique natural resources on private lands.

NAPP provides support for a full range of management activities to protect, restore and enhance significant native resources and geological features. NARS staff administers the NAPP, although the private applicant carries out all on-the-ground activities. 6-year, long-range management plans provide funding and direction for each NAPP Preserve. Since 1993, a portion of the Conveyance Tax, which is levied each time real estate property is bought or sold, has funded the Program. For more information on the NAPP, see www.state.hi.us/dlnr/dofaw/napp/index.html.

Beginning in FY01, via Act 269, Session Laws of Hawaii 2000, NAPP has expanded its scope to include providing year-to-year funding for watershed projects using the balance of the yearly allotment. Watershed management is an efficient way to manage the natural landscape against threats to the health of the forest and more effectively protect and utilize these areas for the good of Hawaii's citizens.

In FY04, this Program provided funding and technical support to protect over 850,000 acres in several watershed partnerships: East Maui and West Maui Mountains Watershed Partnerships and the Leeward Haleakala Watershed Restoration Partnership on Maui, Koolau Mountain Watershed Partnership on Oahu, Lanaihale Watershed Partnership, East Molokai Watershed Partnership, Kauai Watershed Alliance, the Olaa Kilauea Partnership and the Kohala Mountain Watershed Partnership, both on the Big Island. Projects focus on alien species control and fencing. For more information on NAPP watershed projects, see www.state.hi.us/dlnr/dofaw/wpp/index.html.

1. DESCRIPTION OF ACTIVITIES AND ACCOMPLISHMENTS

NAPP Preserves

KANEPUU PRESERVE

Landowner:

Managing Partner:

Entered NAPP:

Dole Food Company, Inc.

The Nature Conservancy of

Hawaii (TNCH)

FY92

Kanepuu Preserve on Lanai comprises 590 acres in 7 distinct units and represents the last major remnant of a dryland forest community, which once covered large portions of Maui, Lanai, Molokai,

and Kahoolawe. Ten rare plants, 6 of them federally listed, have been reported from the Preserve. Protection from axis deer and control of non-native plant species have been the primary management activities. In FY04, fencing of the Kanepuu Unit was completed and now the two most biologically important units are entirely surrounded with stainless steel wire fencing. Remaining nursery plants from the FY03 outplanting effort were planted or donated for other restoration projects. Threat reduction efforts in FY04 included removal of established invasive species such as *Lantana camara*, Christmas berry (*Schinus terebinthifolius*), and other weedy shrubs to better assist hunting efforts in animal corridors. In addition, the staff conducted 5 hunting trips and removed 2 deer. Furthermore, volunteers from Project Stewardship and the Sierra Club removed invasive grasses and shrubs that were competing with recently outplanted native species. These restoration and threat reduction efforts have led to one of the few naturally regenerating populations of endangered *Hibiscus brackenridgei* (the State flower) in the State. Public outreach efforts included field trips to the Preserve with 50 Lanai high school students to outplant native plants and to increase appreciation for native dryland forests. The self-guided nature trail continued to provide additional educational opportunities. In FY05, TNCH plans to conduct fence maintenance, ungulate control, and weed control. Staff will also build the capacity of interested groups to assist with management of the Preserve

KAPUNAKEA PRESERVE

Landowner:

Managing Partner

Entered NAPP:

Pioneer Mill Company, Ltd.

TNCH

FY92

This 1,264-acre Preserve is a component of regional protection efforts for the important watershed and native ecosystems found in the West Maui Mountains. Containing 10 native communities, 29 rare species of plants (10 federally listed), as well as 4 rare snail species and the endangered Hawaiian hoary bat, the Preserve's upper elevations are recognized as among the highest quality native areas in the State.

The primary management accomplishments for Kapunakea Preserve in FY04 were: completion of snare check and fence check cycles, protection of the entire Preserve via lower fence boundary repair and strategic fence replacement, removal of *Tibouchina herbacea*, maintenance of fire break roads,

continued recovery of rare plant species, and completion of annual ungulate threat monitoring. Significant contributions were made towards the West Maui Mountains Watershed Partnership including the installation of two priority fences protecting the Kahakuloa Natural Area Reserve and Department of Water Supply lands, improving snaring operations, and completion of fall and spring ungulate monitoring on five West Maui Mountains transects. Outreach activities continued with one staff-led hike on the Honokowai Ditch Trail and staff participation in community sponsored events.

PELEKUNU PRESERVE

Landowner:

Managing Partner:

Entered NAPP:

TNCH

TNCH

FY92

Pelekunu Preserve, located on the north shore of Molokai, is a 5,759-acre Preserve established to protect the free-flowing Pelekunu Valley stream system, one of the best in the state. It is also part of a larger regional management effort that provides protection to over 25,000 contiguous acres on Molokai. Pelekunu contains nearly all the native Hawaiian freshwater fish, crustacean and mollusk species. In addition, 28 rare plant, 6 endemic forest bird and 2 endemic land snail species have been reported from the area. Protection of the watershed by reducing ungulate damage and reducing the spread of non-native plants are the primary management activities. Feral ungulate control and monitoring in the back portion of the Preserve remained the primary focus in FY04. Public hunting continued to be utilized through the Molokai Hunting Working Group. During FY04, 3 goats and 36 pigs were removed through ground hunting. Public outreach programs continued through public lectures and hikes, with the support of interns, Alu Like, and summer youth programs. In FY05, TNCH will continue to conduct staff-led volunteer hunts along with monitoring for ungulate activity in the Preserve.

Weed control efforts will focus on manual control of habitat-modifying weeds like the African Tulip tree and investigating ways of incorporating bio-control on *Clidemia hirta*. TNCH is helping the Hawaii Department of Agriculture field-test a suitable bio-control agent for *Clidemia* on private lands near the Preserve. In addition in FY05, an aquatic monitoring session is planned, and community outreach efforts will continue with guided hikes to the Preserve overlook.

PUU KUKUI WATERSHED MANAGEMENT AREA (WMA)

Landowner:	Maui Land & Pineapple Co.
Managing Partner:	Maui Land & Pineapple Co.
Entered NAPP:	FY94

With over 8,660 acres, the Puu Kukui Watershed Preserve is a critical component of regional protection efforts as a founding member of the West Maui Mountains Watershed Partnership's (WMMWP) 50,000 contiguous acres.

14 native natural communities, 2 of them rare, are found in the Preserve along with over 40 rare plant species and 6 endemic species of land snails. Primary management efforts were focused on the

removal of feral ungulates and control of non-native plant species. Feral ungulate control efforts were increased resulting in low to no animal activity levels observed in the high-priority upper elevation areas of the Preserve. 37 pigs were caught in the lower areas or below the Preserve boundaries by 16 hunters with permits from Maui Land & Pineapple Company, Ltd. (ML&P) while only 19 pigs were caught by Preserve staff mauka of strategically-placed fences. One new feral ungulate control fence was constructed along the lower elevation boundary of the Honokohau Unit and the State's Kahakuloa Forest Reserve with assistance from the WMMWP fence crew. Small mammal trapping was conducted for rats in several locations. Control measures continued for populations of high-priority non-native plant species, including *Clidemia*, *Psidium* and *Tibouchina*. Limited control and monitoring of the cannibal snail continued at various elevations in the Preserve.

A number of plant survey trips documented the presence of new populations and new species records for the Preserve. Several research projects were carried out in the Preserve with logistical

support provided by Preserve staff. Protection of the fragile bog ecosystem was enhanced through upgrading and adding to the boardwalk in the high-elevation region of the Preserve to replace existing trails. In FY05, a mid-elevation plant nursery will be completed next to the Haelaau cabin in order to begin restoration efforts of the native loulou palm *Pritchardia forbesiana*, a West Maui endemic. 6 multipurpose (pig/deer/human) control fences are planned for installation below the Preserve boundary to create a buffer zone of currently undeveloped Agricultural-zoned land. Additional multi-purpose fences are planned annually until the entire lower Preserve is protected by a buffer zone of undeveloped or low impact agriculture uses, such as tracts of select native hardwoods.

KAMAKOU PRESERVE

Landowner:

Molokai Ranch, Ltd.

Managing Partner:

TNCH

Entered NAPP:

FY95

The 2,774-acre Kamakou Preserve helps increase regional protection efforts for the important watershed and native communities found in East Molokai. Forty of the plant species are rare, of which 23 are considered federally endangered. In addition, the Preserve protects habitat for 5 native forest bird and 5 rare native land snail species. The primary management focus is to prevent degradation of the native forest by reducing feral ungulate damage, limiting the spread of non-native habitat-modifying plants, and preventing wildfire. In FY04, feral ungulate control activities included: surveying the fence extension route for the Kawela fence; live pig trapping (resulting in 39 captures) and volunteer hunting from the Molokai community (reported 19 pig, 8 goat, and 1 deer captures). Staff and volunteer groups removed *Clidemia*, strawberry guava, New Zealand flax, black wattle, Christmas berry, rose, ginger and blackberry in the Preserve. Conservancy staff provided logistical support for several research projects conducted in the Preserve. Public outreach programs continued to be important both on- and off-site. For FY05, live trapping of pigs will be the focus of ungulate control efforts. The bulk of staff and volunteer time will be spent on controlling habitat-modifying weeds in the Preserve.

Other activities will include supporting researchers, conducting community outreach, and maintaining the Preserve's facilities.

MOOMOMI PRESERVE

Landowner:

TNCH

Managing Partner:

TNCH

Entered NAP Program:

FY95

This 921-acre Preserve on Molokai contains one of the largest and best remaining dune ecosystems in Hawaii. Moomomi contains 8 rare plant species and 1 rare native plant community. Green sea turtles, wedge-tailed shearwaters, Laysan albatrosses, and Hawaiian monk seals are known to use the area. In addition, Moomomi contains significant archaeological, paleontological, and cultural resources. In FY04, animal control activities were primarily conducted to control predators (cat and mongoose) that impact the establishing wedge-tailed shearwater colony. It also included maintaining fences to exclude domestic cattle from entering the Preserve. Non-native plant control focused on removing kiawe, Australian saltbush and *Reichardia tingitana*. Protection of important

cultural sites continued through cooperative efforts with DLNR's Historic Preservation Division and local community groups. Community outreach programs included Preserve hikes and off-site activities. In FY05, staff will continue to conduct predator control, fence surveys, and monitoring of the wedge-tailed shearwaters' nesting colony. In addition, staff will also control habitat-modifying weeds and conduct community outreach activities.

A community partnership between Alu Like, Kalaupapa National Historical Park, Kualapuu Ranch, and The Nature Conservancy to create a native plant enclosure is also planned. The purpose of the enclosure is to reintroduce three significant native plants back to the Preserve: yellow wiliwili, ohai and *Marsilea* fern.

WAIKAMOI PRESERVE

Landowner:

Haleakala Ranch Company

Managing Partner:

TNCH

Entered NAP Program:

FY95

This 5,230-acre Preserve helps increase regional protection efforts for the important watershed and native species habitat found in the East Maui Watershed Area. Waikamoi provides habitat for 13 native bird species, 8 of which are federally listed as endangered. Fourteen native natural communities, 2 of them rare, are found in the Preserve along with 30 rare plant species. The primary management accomplishments for Waikamoi Preserve in FY04 were: inspection, repair and assessment of Waikamoi boundary fences; intensive scouting and removal of 55 pigs within problem areas of Waikamoi and Koolau Gap; elimination of *Miconia*, ginger, gorse, blackberry and tropical ash; support of the recovery of the endangered *Geranium arboreum* shrub through outplanting; and providing training, orientation and monitoring calibration for East and West Maui Watershed Partnership field crews. Outreach activities continued with interpretive hikes, volunteer service trips, and staff participation in community events such as the Annual Makawao Paniolo Parade.

NAPP Watershed Partnership Projects

East Maui Watershed Partnership

Under the leadership of the EMWP Coordinator and working out of a baseyard at Piiholo in Makawao, two additional field staff were hired to compliment the existing crew of 6. EMWP staff now consist of a project coordinator, public relations associate, field supervisor, (2) field crew leaders and (3) field technicians. Accomplishments during fiscal year 2004 included: Secured short term funding through several sources, particularly the United States Fish and Wildlife Service (USFWS) Hawaii Community Conservation Initiative, State of Hawaii Department of Health, Alexander and Baldwin Foundation, and County of Maui; installation of 1.0 mile of fenceline along the 3,600-ft contour of windward Haleakala; construction of management trails in support of future feral animal removal programs; staff training; partnered with adjacent agencies conducting feral animal and weed removal; surveyed and mapping areas within the watershed for future management

actions. In FY 05, the crew will continue activities outlined in the management plan, particularly the construction of the contour fence and support infrastructure, such as required management trails and shelters.

West Maui Mountains Watershed Partnership

In FY 04, the 6 to 3-person crew: prioritized fence construction within the Watershed; implemented animal control efforts; controlled non-native weed species; and implemented other management actions identified in the management plan. Approximately 1.5 miles of fence were built within and adjacent to Kahakuloa NAR for its protection from feral ungulates. Other strategic fences were constructed to control the ingress of wild cattle and feral pigs throughout the watershed including one in Waihee Valley. The combination of fencing in conjunction with hunting and trapping continues to be effective in reducing the feral pig population. Considerable control efforts have been spent in Panaewa NAR and immediate adjacent areas. A remnant population of approximately 12 wild cattle near the summit of Hanaula continues to be a target. 5 monitoring transects were surveyed twice in FY04 for weed distribution and feral ungulate activity in the watershed. One transect is located in Panaewa NAR and another within Kahakuloa NAR and have resulted in increased fence and control efforts in these areas. These transects were added to the existing GIS database which is currently being used to identify, map and prioritize invasive weed management. A new Coordinator was hired to fill the vacancy left by the departure of the previous Coordinator. In FY05 the WMMWP plans to continue work on a fence to separate the Kahakuloa NAR from the Kahakuloa Forest Reserve, animal control activities will be increased above existing and new fences including the elimination of the remaining cattle in Hanaula, and weed mapping and control efforts over the entire landscape will be enhanced.

East Molokai Watershed Partnership

Feral ungulates have been impacting the East Molokai Watershed damaging vegetation and causing erosion throughout the Watershed.

The EMoWP focused a lot of time on preparing and planning for the Kawela/Makolelau fence, which extends the original Kamalo/Kapualei fence by 3.5 miles and joins the Kamakou east boundary fence. The vegetation above the fence has improved dramatically since the installation in 2000. Although the partnership did not conduct any aerial shooting, the partnership did host an Aerial Shooting training for DOFAW shooters. Finally, two important fence gaps on the Kamalo/Kapualei fence were closed off and now the entire 5.5 mile fence has no gap openings. In the Puu Haha gap, the last 300 feet on the bottom east side of the gulch was fence with conventional fence, while the Hina gulch used a new type of “slinky” fence. Ongoing goat and pig hunts have resulted in 152 goats and 40 pigs removed. Approximately 75% of a 10 acre blackberry patch has been treated in Mooloa, Kamalo. The State Division of Forestry and Wildlife conducted a Molokai wide forest bird survey in March and surveyed lands of the partnership. The partnership assisted by providing personnel and logistics. The highlight of the survey was that two iiwi were detected, one of them in the Kamalo area. The Partnership has also helped with USGS’s plan to set up stream gauges at Kamalo and Kawela streams.

Approximately 1,500 hours of TNC staff time, 600 hours of volunteer time and 100 hours of partner time spent on EMoWP projects. In FY05, the EMoWP plans on completing the Kawela/Makolelau fence, and starting a community hunt program at Kawela similar to the Kamalo hunt program. The Partnership also plans to complete landowner “right of entry” legal documents required by DOFAW for aerial shooting activities.

Olaa Kilauea Partnership

The Olaa Kilauea Partnership completed planning and environmental compliance for the 6.5 mile Keauhou Upper Boundary fencing project to protect 15,000 acres from mouflon sheep and enhance watershed protection and restoration. Partnership and DOFAW staff cooperated to mark the fence alignment and do archeological and biological surveys along the proposed fence corridor. The Partnership is planning on completing construction of this fence next year and initiating feral animal control in the area. Other planned projects include completing feral animal control work in two additional fenced units (Wright Rd. and South Boundary) that will protect over 4,000 acres of upper elevation rainforest.

Koolau Mountains Watershed Partnership (KMWP)

The KMWP Coordinator was hired in April 2002. Since that time, the Coordinator worked towards establishing the KMWP as a functional organization and implementing the KMWP Management Plan. Infrastructural support, including vehicular transport, technology needs, and office supplies, have been established in DLNR’s Waimano Baseyard. Following the infrastructural set-up, several meetings were held with partners to prioritize management activities. KMWP staff worked with the Hawaii Natural Heritage Program (HINHP) to develop a list of priority areas for biological surveys. It was decided that priority would be given towards the surveying of the Oahu Forest National Wildlife Refuge. Aerial surveys were then conducted on the Refuge and HINHP was subsequently contracted for the survey and report writing of the area.

Additional information gathering that will be used for management strategies was obtained through the use of a Watershed Valuation Analysis. KMWP worked with the Geography Department at the University of Hawaii to develop this analytic tool which models watershed values, vulnerabilities, and costs and benefits for ungulate management strategies. Other activities conducted by KMWP staff include organizing 3 outplantings (over 400 volunteer hours) in cooperation with partner agencies and the Boy Scouts to plant 2850 seedlings. Staff also conducted public outreach activities including the distribution of KMWP brochures at the Hawaii Conservation Conference, planned, and coordinated the Watershed Symposium, and secured \$416,000 in grant awards to be used in upcoming reforestation projects, biological surveys, fencing, and funding for field technicians.

Kauai Watershed Alliance

Accomplishments of the Kauai Watershed Alliance with NARF cost-share were mainly focused on developing a management plan. The Nature Conservancy are presently developing the management plan and have completed the second draft. In addition, the Fund supported several on-the-ground projects including weed surveys, particularly for Kahili ginger in the Alakai Wilderness. In the

upcoming year it is anticipated the management plan will be completed and put out for public review. If all goes well, the first phase of the plan can be implemented which includes weed removal, reduction of ungulates and installation of improvements to conduct monitoring of the watershed.

Kohala Mountain Watershed

The Kohala Watershed Partnership began meeting regularly over the fiscal year. A contractor was secured to develop a management plan for the partnership area. Interviews of residents and people knowledgeable in the area have been conducted. A cultural assessment of the Puu O Umi NAR was also completed which will facilitate the completion of environmental compliance documents. NARS field crews completed the reconstruction of the Kilohana Stream enclosure, which will serve as an outplanting site for rare plants collected throughout Kohala Mountain. Monitoring of rare plant populations has continued in a number of locations throughout the watershed including the lower, extremely remote locations. A small enclosure was built around a rare plant, *Gardenia remyi* at the lower elevations. A number of trails were re-flagged and the Kohala summit cabin had a number of improvements made.

Kona Soil and Watershed Conservation District Watershed Project

Several rounds of community meetings were held at North, South, and Central Kona to gain valuable insight and public concerns. Steering committees and technical committees were formed to review preliminary concerns and objectives and a technical writer was hired to prepare a monthly display in the West Hawaii Today Newspaper. These displays featured different aspects of the planning process and explain problems existing in the watershed. A webmaster was also hired to host and design a website to use maps and photographs to reach the general public.

Waianae Watershed Development

Pre-planning funds were provided to investigate the possibility of developing a Waianae Watershed Partnership. Accomplishments this last year included contracting a Waianae planner to conduct scoping meetings and summarize existing resource information. As the Board of Water Supply simultaneously are involved in a similar exercise, the two planning groups have been collaborating, so not to duplicate efforts.

In addition, one on-the-ground project was funded. The Waianae Kai Fire Restoration Project was initiated after a wildfire consumed approximately 10 acres of native forest of Koa with an uluhe understory. The affected area was equally divided between Makaha and Waianae valleys. Oahu DOFAW worked with: Kaala Farm Inc.; Ilioulaokalani Coalition; Mohala I Ka Wai; Board of Water Supply; and the University of Hawaii – Botany Department; to form the Waianae-Kai Community Forest Project to work at restoring the native vegetation at the burn site and other projects. Staff purchased 6,000 linear feet of erosion control materials for installation at the site. The 6,000 linear feet of erosion control material consisted of 2 different types to compare the effectiveness of

different erosion control materials. All the materials were flown to the burn site, a process that took 2 full days. A combination of volunteers, Youth Conservation Corps crew, and contracted labor installed the erosion control materials over the 10-acre site. The layout of the erosion control materials was done according to an experimental design to determine what material and what installation technique was most effective in preventing soil erosion. The next phases of the project will involve monitoring what native forest plants return to the burn site, continual weeding to remove invasive plants such as blackberry, and an outplanting program scheduled to begin in the winter of 2004/2005.

Watershed Monitoring and Database Development

The objective of this ongoing project is to provide watershed partnership coordinators monitoring and mapping support for their areas. Over the past year, members of the Hawaii Natural Heritage Program (HINHP) staff met with members of the Oahu and Maui Watershed Partnerships to discuss database and GIS needs for weed and ungulate monitoring. Ideally, all watershed partners would follow the same set of weed and ungulate monitoring protocols, and data would be entered into a single database. This would provide a clear picture of the status of watersheds throughout the State. Toward this end: HINHP developed a needs-assessment process; compiled existing data; established a system of data standardization and input; developed a method to retrieve this information for applications, such as work assignment and report writing; and trained partnership staff to use the data.

Support for Trail and Access Road Maintenance

The Fund provided \$60,000 in FY04 to assist the Statewide Trail and Access Program (Na Ala Hele) in management and maintenance of multiuse trails and access roads.

Actions associated with this grant included personnel costs, watershed and hunting area access road surface improvements, and the acquisition and or repair of tools and equipment used to reduce noxious plant species along watershed trail corridors statewide.

YCC and Public Education

For a description of the accomplishments of the YCC and Watershed Information and Education, please see the Public Outreach, Youth Activities and Community Involvement section in the NARS section of this report.

2. COMPLIANCE WITH CHAPTER 42F, HRS, REQUIREMENTS

All Partnership and YCC projects are in accordance with the provisions in Chapter 42F, HRS.

3. ANALYSIS OF THE PROBLEMS AND ISSUES ENCOUNTERED

Natural resource protection and management are long-term efforts requiring time and energy commitments not often found in other projects. Restoration projects often take years before results are discernible. Several of the projects funded this year under NAPP, could take years to achieve the desired objectives. It is important to note that management and protection of natural areas, watersheds and native ecosystems need to continue for the long term.

Partnership and community-based management Programs require a concerted effort and often take a long time to establish and implement. Partnership steering committees, community advisory councils and facilitated working groups have been established to help management partners address local concerns in the coming years.

Watershed partnerships have become increasingly important as landscape level issues are addressed. They expand the management focus beyond NARS, NAPP, and National Park Service boundaries. Ecosystem issues are complex and cut across political, legal and geographic boundaries. Often, no one agency or organization is equipped to handle the issue in its entirety thus making cooperative partnerships a vital necessity.

4. Status of Public Hunting Opportunities

On Molokai, the Kamakou Preserve is open for public hunting on a year-round basis for hunting of pigs, goats, and axis deer with no bag limits. Moomomi Preserve currently has no public hunting opportunities. Pelekunu Preserve continues to utilize staff-organized volunteer ground hunts through the Molokai Hunting Working Group.

On Maui, public hunting on Kapunakea Preserve is allowed only with staff supervision due to liability and safety concerns.

Each request is considered on a case-by-case basis to ensure that hunter access to lower portions of the Preserve is permitted while preventing disruption to the existing private agriculture operations. The conservation easement between TNC and Amfac/JMB Hawaii, L.L.C. requires that there be no unaccompanied public hunting. Kapunakea Preserve is closed to hunting with dogs due to an increased snaring effort in the Preserve. This increased snaring effort was precipitated by evidence of dramatically increasing pig numbers in the hunted areas. However, TNC staff will accompany public hunters hunting without dogs upon request, on a case-by-case basis. If staff has a scheduled trip, and hunting activities will not interfere with other management activities, the individual requesting access may be allowed to hunt in the company of a staff person. Therefore, under these circumstances, limited public hunting opportunities are available at Kapunakea Preserve.

Waikamoi Preserve has limited volunteer hunting opportunities. The conservation easement between TNC and Haleakala Ranch allows ranch employees hunting privileges as long as there is game to hunt. Public hunters willing to follow guidelines, sign a liability waiver, and complete a volunteer form will be allowed to hunt in unit 1A of the Preserve on a limited basis (when hunting will not interfere with ongoing management activities, planned guided hikes, and hunting by ranch employees). However, it should be understood that TNCH's goal is to remove all ungulates in the Preserve, and no area within Waikamoi Preserve will be considered a sustained yield hunting area.

There are approximately 50,000 acres available to public hunters below the Preserve to meet public hunting needs. Should it become necessary, TNC reserves the right to close unit 1A and any other management unit in Waikamoi Preserve to hunting.

The Lanai hunting community has been actively involved with removing deer from the fenced units in the Kanepuu Preserve.

5. FINANCIAL REPORT

The Fund receives revenues from the Conveyance Tax (25% of total Conveyance Tax) on real estate transactions. In FY 04, revenues were \$4,504,941 with \$4,358,054 from the Conveyance Tax and \$146,887 from the Investment Pool (See Table B). The unencumbered balance at the beginning of FY 04 was \$4,143,130 and at the beginning of FY 05 was \$6,282,995. In FY 04 \$2,560,959 were expended with \$784,243 supporting the NAPP Preserves (see Table C), \$263,413 supporting the YCC Program (see Table D) and the \$1,513,303 supporting the NAPP Watershed Partnership Projects (See Table E for Allocations).

As shown in Table E and F, an added benefit of NAPP funding is to provide a state cost-share for the partnerships to aggressively pursue Federal watershed and private watershed and conservation grants. The reason expenditures did not meet the spending cap of \$3,300,000 was funds allocated for contracts were not encumbered due to a variety of problems in the procurement process.

This was compounded by an Administrative spending moratorium imposed May 2004, making it difficult to re-allocate the funds once the procurement problems were known.

The Conveyance Tax also supports the Forest Stewardship Program (FSP) by direct transfers, pursuant to Section 247-7, HRS. The financial report of the Forest Stewardship Fund can be found in the FSP report, pursuant to Section 195F-6 (e), HRS.

6. PLANS AND MANAGEMENT OBJECTIVES FOR THE NEXT FISCAL YEAR

NAPP preserve management activities will be guided by completed management plans. Plan implementation will focus on eliminating or controlling the spread of non-native plants and animals that have a detrimental effect on native ecosystems. Other management considerations will include rare and endangered species protection, monitoring, research, public education and generating community support. After several years of no new NAPP preserve contracts, staff has been contacted by 2 landowners interested in applying for the Program. As well, Puu Kukui Preserve on Maui is expected to renew their NAPP contract with a possible expansion to new areas.

FY05 will be a very active year for the watershed partnerships. DOFAW and NARS staff will continue their leadership roles in these Partnership activities, both statewide and at the individual partnership level. Sections of existing management plans will be implemented as a result of developing management capacity due to, among other things, obtaining a number of federal watershed and conservation grants and the Legislature providing the state cost-share from the Fund.

New managements plans will be developed for Kauai and Kohala, as well as an axis deer control plan for Maui. For FY 05, the fund allocations to support the above mentioned Programs are outlined in Table F. It is anticipated FY 06 allocations will fund a similar suite of projects.

This was the second year of the USFWS Landowner Incentive Program, which is designed to supplement existing private stewardship Programs, such as NAPP, Forest Stewardship Partnership program, and Watershed Projects. The additional federal funding allows additional actions to be conducted on endangered species habitat on private lands. In FY 05, staff will be assisting landowners in implementing these projects, developing projects for FY06, and continue existing multi-year projects. Although this puts additional workload on existing NARS staff, there has been excellent progress in meeting the goal of assisting natural resource management on private lands dedicated to conservation.

Detailed project plans and accomplishment reports for the NARS, NAPP, Watershed Partnership Program, and YCC, are available through links from DOFAW websites or from the:

Natural Areas Program Manager
Department of Land and Natural Resources
Division of Forestry and Wildlife
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LNR 407 Natural Areas Management Budget Summary Fiscal Year 2004

Table A: FY04 Natural Area Reserve System Budget (General Fund App. 047)
Total = \$1,166,200

NARS 'A' Personnel Expenditures FY04 (27 positions)	Total = \$746,174
NARS 'B' Operating Expenditures FY04	Total = \$420,026

FY05 Natural Area Reserve System Allocation (General Fund App. 047)
Total = \$1,094,015

NARS 'A' Personnel Expenditures FY05 (22 positions)	Total = \$654,630
NARS 'B' Operating Expenditures FY05	Total = \$439,385

Table B: Natural Area Reserve Fund Revenues FY04 (342)

Total = \$4,504,887

Revenue Source	Time-frame	Amount
FY'04 Conveyance Bureau transfers	1/7/03-6/30/04	\$4,358,054
Investment Pool Revenues	1/7/03-6/30/04	\$146,887
	TOTAL	\$4,504,941

Table C: NAPP Reserves Expenditures FY04 (342)

Total = \$784,243

NAPP Preserves	Expenditures FY04
Kanepuu	\$ 0
Kapunakea	\$ 117,517
Kamakou	\$ 127,770
Moomomi	\$ 29,290
Pelekunu	\$ 100,775
Puu Kukui Watershed Management Area	\$ 180,177
Waikamoi	\$ 228,714

Table D: Youth Conservation Corps Expenditures FY04 (342)

Total = \$263,413

Activity	Budgeted Expenditures FY04
YCC/Americorps student stipends & fringe	\$151,000
Program coordination contract	\$107,000
Miscellaneous costs: operations, training, marketing, transportation and logistical support costs	\$5,413
Total	\$263,413

Table E: NAPP Funded Watershed Projects FY 04 w/ Cost-Share

Total= \$2,181,800

Project Title	Estimated Federal/Private Cost-share	NARF Cost-share	Location
Wildland Fire Program (SFA and VFA grants)	\$100,000	\$100,000	Statewide
Plant Population Management - Tissue Culture, Propagation and Storage for Critical Plant Species (Lyon Arboretum)	\$36,000	\$18,000	Statewide

Funds available for additional Statewide watershed projects	*	\$52,918	Statewide
Trails Program	\$180,000	\$60,000	Statewide
Plant Surveys and Enclosure Maintenance	\$70,922	\$32,750	Statewide
Recovery Actions for Hawaii's Natural Area Reserve System	\$206,000	\$102,900	Statewide
Game Operations/Maintenance	\$60,000	\$20,000	Statewide
Wildlife Conservation Strategy Coordination and Planning	\$31,230	\$10,410	Statewide
Native Dryland and Mesic Forest Protection and Restoration - Mauna Kea, Puuwaawaa, Kahikinui.	\$55,000	\$55,000	Statewide
Plant Population Management - Genetic Safety Net Species, Oahu	\$60,000	\$19,872	Statewide
Implementation of a Statewide Landowners Incentive Program	\$180,000	\$60,000	Statewide
I+E: Step into the Hawaiian Forest	*	\$15,000	Statewide
Central Services	\$0	\$260,000	N/A
Heritage Watershed database services	\$30,000	\$10,000	Statewide
Implementation: planning and contract administration	\$120,000	\$41,560	Statewide
Plant Population Management - Outplanting and Monitoring - Pahole - Waianae Mts., Oahu	\$84,750	\$30,250	Oahu
Waianae Mountains Watershed and Conservation Partnership	\$20,000	\$20,000	Oahu
Plant Habitat Management - Maintenance and Enhancement - Koolau Mountains, Oahu	\$30,000	\$12,500	Oahu
Oahu elepaio demography, disease and predator control	\$5,000	\$5,000	Oahu
Koolau Watershed Partnership	\$195,300	\$65,100	Oahu
Funds for additional Oahu watershed projects	*	\$80,000	Oahu
Plant Population Management - Propagation and Outplanting - Hawaii	\$42,750	\$19,100	Hawaii
Plant Population Management - Volcano rare plant facility	\$65,533	\$27,500	Hawaii
HCP Devel.-Game Mammal Mgmt. North Kona	\$69,000	\$23,440	Hawaii
Plant Facilities Construction -Upper Waiakea Forest Reserve/Puu Huluhulu, Hawaii	\$7,500	\$2,500	Hawaii
Plant Habitat Management - Kipahoe Forest Restoration, Hawaii	\$51,750	\$19,250	Hawaii
Plant Habitat Management - Puu Makaala NAR, Hawaii	\$15,000	\$5,000	Hawaii
Plant Habitat Management - Puuwaawaa, N. Kona, Hawaii	\$15,000	\$5,000	Hawaii
Puu Waawaa Habitat Protection and Restoration	\$25,000	\$25,000	Hawaii
Development of Kohala Mountain Watershed Partnership Management Plan	\$10,000	\$20,000	Hawaii
Keauhou Ranch Fencing and Forest Restoration	*	\$26,750	Hawaii
Kohala Riparian Restoration	\$90,000	\$30,000	Hawaii
Kohala Bog Protection	\$60,000	\$20,000	Hawaii
Kohala Forest - Pasture Fenceline Project Phase 3	*	\$60,000	Hawaii
Kona Watershed Management Plan	\$10,000	\$15,000	Hawaii
Funds for additional Hawaii watershed projects	*	\$140,000	Hawaii
Maui Axis Deer Control	\$60,000	\$16,000	Maui
East Maui Partnership Habitat Restoration	\$23,500	\$6,000	Maui
South Haleakala Native Forest Restoration	\$62,450	\$62,450	Maui
Kahakuloa NAR-GMA Fencing Project	\$60,000	\$20,000	Maui
Plant Population Management - Olinda Nursery	\$24,000	\$12,000	Maui

Leeward Haleakala Watershed Restoration Partnership Coordination and On-the-ground projects	*	\$30,000	Maui
WMMWP - Plan Implementation	\$210,000	\$70,000	Maui
Plant Habitat Management - Enclosure Maintenance - Lanai, Molokai, Maui	\$15,600	\$4,400	Maui
Kanaio Fence, Maui	\$50,000	\$30,000	Maui
Funds for additional Maui watershed projects	\$130,000	\$130,000	Maui
MFBRP -- Research and Management	\$25,800	\$25,800	Maui
East Maui Watershed Partnership	\$195,000	\$65,000	Maui
East Molokai Watershed Partnership	\$80,000	\$40,000	Molokai
Lanai Forest and Watershed Partnership	*	\$30,000	Lanai
Plant Population Management - Kokee Rare Plant Facility Propagation and Outplanting	\$50,000	\$25,000	Kauai
Puaiohi Population Research and Management	\$40,000	\$10,350	Kauai
Kauai Watershed On-the-ground Projects	*	\$25,000	Kauai
Kauai Watershed Management Plan	\$40,000	\$10,000	Kauai
Funds for additional Kauai watershed projects	\$60,000	\$60,000	Kauai
TOTAL	\$3,052,085	\$2,181,800	
	*No match information currently available.		

Table F: NARF Funded Projects FY05 w/ Cost-Share

Total= \$3,300,000

Project Title	Estimated Federal/Private Cost- share	NARF cost-share	Location
Wildland Fire Program (SFA and VFA grants)	\$50,000	\$50,000	Statewide
Remote climate gauging station	\$300,000	\$100,000	Statewide
Natural Area Partnership Program (NAPP)	\$504,672	\$1,009,344	Statewide
On- the -ground management actions on Hawaii, Kauai and Maui	*	\$414,258	Statewide
Annual Hawaii Conservation Alliance cost-share	*	\$7,500	Statewide
Organization of Hawaii Watershed Conference	*	\$5,000	Statewide
Heritage Watershed Monitoring	\$15,000	\$15,000	Statewide

Funds available for additional projects	*	\$24,500	Statewide
Endangered Plant Surveys/Maintenance	\$189,408	\$63,136	Statewide
CCA Recovery Actions – Natural Areas	\$196,700	\$66,233	Kauai
Trails Program	\$160,000	\$40,000	Statewide
Youth Conservation Corps (YCC)	\$80,000	\$145,000	Statewide
Americorp Intern Project	\$134,000	\$90,000	Statewide
Implementation of a Statewide Landowners Incentive Program	\$88,000	\$35,000	Statewide
Watershed I+E services	*	\$10,000	Statewide
Central Services	*	\$220,000	
Plant Outplanting and Monitoring - Pahole - Waianae Mts.	\$95,000	\$21,000	Oahu
Recovery Actions-- Koolau Watershed	\$37,086	\$14,029	Oahu
Koolau Watershed Protection/Restoration	\$180,000	\$60,000	Oahu
Northern Koolau Hunting Program	\$20,000	\$10,000	Oahu
Funds for additional Oahu watershed projects	*	\$85,000	Oahu
Plant habitat management, Natural Areas	\$90,000	\$30,000	Hawaii
Native Dryland and Mesic Forest Protection and Restoration - Puuwaawaa	\$180,000	\$180,000	Hawaii
Plant habitat management, Puuwaawaa	\$17,000	\$6,000	Hawaii
Keauhou Ranch Fencing and Forest Restoration	\$15,000	\$5,000	Hawaii
Cultural assessment-- Puna, Hamakua	*	\$15,000	Hawaii
Management actions for Kohala watershed	*	\$50,000	Hawaii
Funds for additional Hawaii watershed projects	*	\$45,000	Hawaii
East Molokai Watershed Partnership	\$20,000	\$25,000	Molokai
Lanai Forest and Watershed Partnership	\$20,000	\$20,000	Lanai
Endangered Maui Forest Bird Management	\$30,000	\$10,000	Maui
E. Maui Watershed Protection/Restoration	\$210,000	\$70,000	Maui
EMWP - Plan	\$90,000	\$30,000	Maui

Implementation			
Maui Axis Deer Control	\$58,000	\$16,000	Maui
Hana Youth Project	\$12,000	\$12,000	Maui
Puu Kukui watershed actions	\$20,000	\$20,000	Maui
East Maui Partnership Habitat Restoration	\$2,000	\$6,000	Maui
Kanaio Fence, Maui	\$90,000	\$30,000	Maui
Baseyard improvements	*	\$60,000	Maui
Funds for additional Maui watershed projects	*	\$35,000	Maui
Kokee Rare Plant Facility Propagation and Outplanting	\$75,000	\$25,000	Kauai
Puaiohi Population Management	\$75,000	\$50,000	Kauai
Kauai Watershed On-the-ground Projects	*	\$30,000	Kauai
Funds for additional Kauai watershed projects	*	\$25,000	Kauai
TOTAL	\$3,113,866	\$3,300,000	
	* No match information currently available		